

## Claims

- [c1] A system for locating a radio transmitter comprising one or more antennas for receiving a signal from said radio transmitter, said signal containing an encoded identification number unique to said transmitter; a computer running a program for estimating the bearing and range of said radio transmitter from said antenna based on the signal strength of said signal; and a means for sending a message containing said estimated bearing and range information and said unique identification number when said signal is detected.
- [c2] The system of Claim 1 further comprising a database indexed by said unique identification number containing demographic information of persons or objects associated with specific ones of said radio transmitters.
- [c3] The system of Claim 2 further comprising a computer for receiving said message containing said estimated bearing and range information and said unique identification number.
- [c4] The system of Claim 3 wherein said computer sending said message and said computer receiving said message

communicate via a standard internet connection and wherein said messages utilize the TCP/IP protocol.

- [c5] The system of Claim 3 wherein more than one of said one or more antennas receives said signal and sends said message and further wherein said computer receiving said messages combines said estimated bearing and range information to form a better estimate of the location of said transmitter.
- [c6] The system of Claim 5 wherein a triangulation algorithm is used to form said estimate of said location.
- [c7] The system of Claim 6 wherein a plurality of said radio transmitters are transmitting at any given time further comprising a means for discriminating between said transmitted signals.
- [c8] The system of Claim 7 wherein said means for discriminating between said signals is a filter that filters out certain of said unique identification numbers or a range of said unique identification numbers.
- [c9] The system of Claim 7 wherein said one or more transmitters transmits on different frequencies.
- [c10] The system of Claim 6 further comprising:  
a means for receiving a message containing a unique

identification number; and  
a means for discriminating between signals transmitted by said plurality of said transmitters such that the location of a single transmitter transmitting a message containing said received unique identification number can be determined.

- [c11] The system of Claim 10 wherein said transmitters periodically transmit said signal containing said unique identification number.
- [c12] The system of Claim 10 wherein said received signal has been relayed by an orbital satellite
- [c13] The system of Claim 11 wherein said transmitters are portable units having an on/off switch and wherein said transmitters periodically transmit said signal after said on/off switch has been activated.
- [c14] The system of Claim 1 wherein said one or more antennas are mobile.
- [c15] A method for determining the location of a radio transmitter comprising the steps of:  
receiving, with an antenna, a signal from said radio transmitter, said signal containing an encoded identification number unique to said transmitter;  
estimating the bearing and range of said radio transmit-

ter from said antenna based on the signal strength of said signal; and

sending a message containing said estimated bearing and range information and said unique identification number when said signal is detected.

- [c16] The method of Claim 15 further comprising the step of querying a database using said unique identification number to determine a person or object associated with said radio transmitter
- [c17] The method of Claim 15 further comprising the step of: receiving a plurality of messages containing said bearing and range information and said unique identification number and forming a more accurate estimate of the location of said radio transmitter using a triangulation algorithm.
- [c18] The method of Claim 17 further comprising the steps of: dispatching a person to said estimated location of said radio transmitter; and using a handheld receiver to pinpoint the location of said radio transmitter.
- [c19] The method of Claim 18 wherein said handheld receiver provides an indication of the bearing of said radio transmitter from the current location of said receiver

- [c20] The method of Claim 19 wherein said handheld receiver provides an indication of the distance of said radio transmitter from the current location of said receiver.
- [c21] The method of Claim 18 wherein said handheld receiver has a keyboard therein for inputting of the unique identification number of the radio transmitter from which signals are to be received.
- [c22] The method of Claim 15 wherein said signals are received from a plurality of radio transmitters further comprising the steps of:
  - filtering out transmissions from all but one of said radio transmitters; and
  - sending said message when a signal from said one radio transmitter is received.
- [c23] A portable radio beacon comprising:
  - a power source;
  - circuitry, powered by said power source, for periodically transmitting a radio signal on a given frequency;
  - means for associating a unique identification number with said radio beacon, said radio signal containing said unique identification number.
- [c24] The portable radio beacon of Claim 23 further comprising an on/off switch for activating said circuitry.

[c25] The portable radio beacon of Claim 23 further comprising a polymer shell encapsulating said radio beacon to protect said radio beacon from environmental hazards encountered when said radio beacon is implanted inside the body of a human or an animal.